

structuring the first through fourth light source units and has a light-emitting mode different from the other dotted light sources. According to this, one of the dotted light sources previously disposed may be shared as the fifth light source unit with its light-emitting mode being different from the others, and this will prevent the increase in the number of dotted light sources. In a mode where the dotted light source is disposed at the intersecting point of the one axis and other axis, this dotted light source of the intersecting point will not be the fifth light source unit. According to the invention with the above features, one of the dotted light sources previously disposed may be shared as the fifth light source unit with its light-emitting mode being different from the others, and this will prevent the increase in the number of dotted light sources.

[0289] In addition, the different light-emitting mode may be a color difference. According to this, the display will be distinguishable from the existing position of the dotted light source of a different color. According to the invention with the above features, the display will be distinguishable from the existing position of the dotted light source of a different color.

[0290] Further, the different light-emitting mode may flash (blink). According to this, the display will be distinguishable from the existing position of the flashing dotted light source. According to the invention with the above features, the display will be distinguishable from the existing position of the flashing dotted light source.

[0291] 21 Moreover, the orientation detection device according to the present invention comprises: imaging means that is provided in either one of a controller and the device main body comprising a display unit having a screen for displaying images and images an orientation detection marker; identification means for identifying an image of a mode containing the biaxial direction information included in the picture image imaged by the imaging means; and computing means for computing the orientation of the controller with respect to the screen of the display unit from the state of the image of the identified mode.

[0292] According to the invention claimed in claim 21, the orientation with respect to the screen of the display unit of the controller may be sought through operation.

[0293] 22 In addition, the orientation of the controller is preferably computed based on the image position of the mode identified with the identification means and the rotation angle information of the axis. According to this, the position on the screen to which the controller is facing; that is, the intersecting point may be computed from the position information and rotation angle information.

[0294] According to the invention claimed in claim 22, the position on the screen to which the controller is facing; that is, the intersecting point may be computed from the position information and rotation angle information.

[0295] Further, an orientation detection marker may be disposed on the controller, and imaging means may be disposed on the display unit. According to this, the picture image of the orientation detection marker may be obtained with the imaging means pursuant to the orientation movement of the screen by the controller. According to the invention with the above features, the picture image of the

orientation detection marker may be obtained with the imaging means pursuant to the orientation movement of the screen by the controller.

[0296] Moreover, the computing means may continuously seek the orientation. According to this, the movement (distance and speed of movement) of the controller may be computed from a plurality of times worth of direction information and position information. According to the invention with the above features, the movement (distance and speed of movement) of the controller may be computed from a plurality of times worth of direction information and position information.

[0297] In addition, the screen may be a screen to which is displayed images projected from a projector. According to this, a desired position on the screen may be designated.

[0298] According to the invention with the above features, a desired position on the screen may be designated.

[0299] Further, an orientation detection marker may be disposed on the display unit and imaging means is disposed on the controller. According to this, the picture image of the orientation detection marker may be obtained with the imaging means pursuant to the orientation movement of the screen by the controller. According to the invention with the above features, the picture image of the orientation detection marker may be obtained with the imaging means pursuant to the orientation movement of the screen by the controller.

[0300] Moreover, the orientation detection marker may be capable of being disposed on the screen of the display unit. According to this, there is an advantage in that the operational expression will be simplified since this will be the same surface as the screen. According to the invention with the above features, there is an advantage in that the operational expression will be simplified since this will be the same surface as the screen.

[0301] In addition, the orientation detection marker contains a different type of orientation detection marker having a mode including axis information in which the other axes are mutually reverse with respect to one of the two biaxial directions, and these different types of orientation detection markers are respectively disposed in a prescribed position relationship with respect to the display unit. According to this, by employing the different types of orientation detection markers sharing the basic mode, processing for individually identifying the same types of markers to be used will no longer be necessary.

[0302] According to the invention with the above features, by employing the different types of orientation detection markers sharing the basic mode, processing for individually identifying the same types of markers to be used will no longer be necessary.

[0303] Further, the orientation of the controller is computed based on the position information within the screen with respect to the center of the picture image based on the image of the light source unit and the rotation angle information of the axis. According to this, the center of the picture image; that is, the intersecting point on the screen to which the controller is facing, may be computed from the position information and rotation angle information. According to the invention with the above features, the center of the picture image; that is, the intersecting point on